

Proposed Point Source Nutrient Discharge Control Regulations

SWCB presentation – June 28, 2005



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Chesapeake 2000 Agreement: A Watershed Partnership

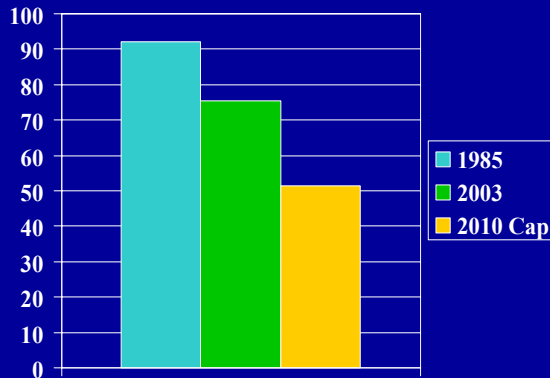


Improving water quality is the most critical element in the overall protection and restoration of Chesapeake Bay and its tributaries.

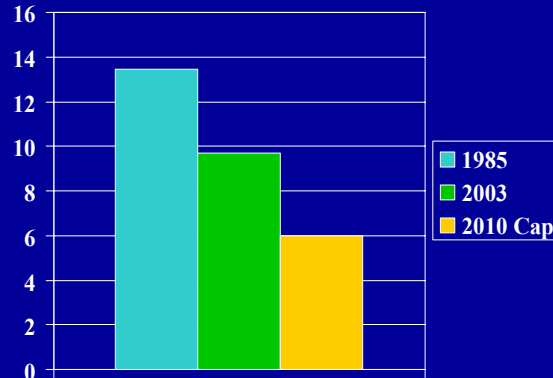
Goal for Nutrients: ***By 2010, correct the nutrient-related problems in the Bay and its tributaries sufficiently to remove them from the Federal "Impaired Waters" list***

To Achieve New Water Quality Standards, Nutrient and Sediment Loads throughout the Bay Watershed Need to be Reduced

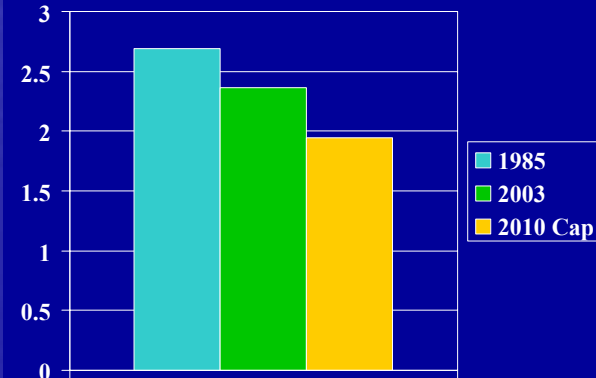
Nitrogen Loads [M lbs/yr]



Phosphorus Loads [M lbs/yr]

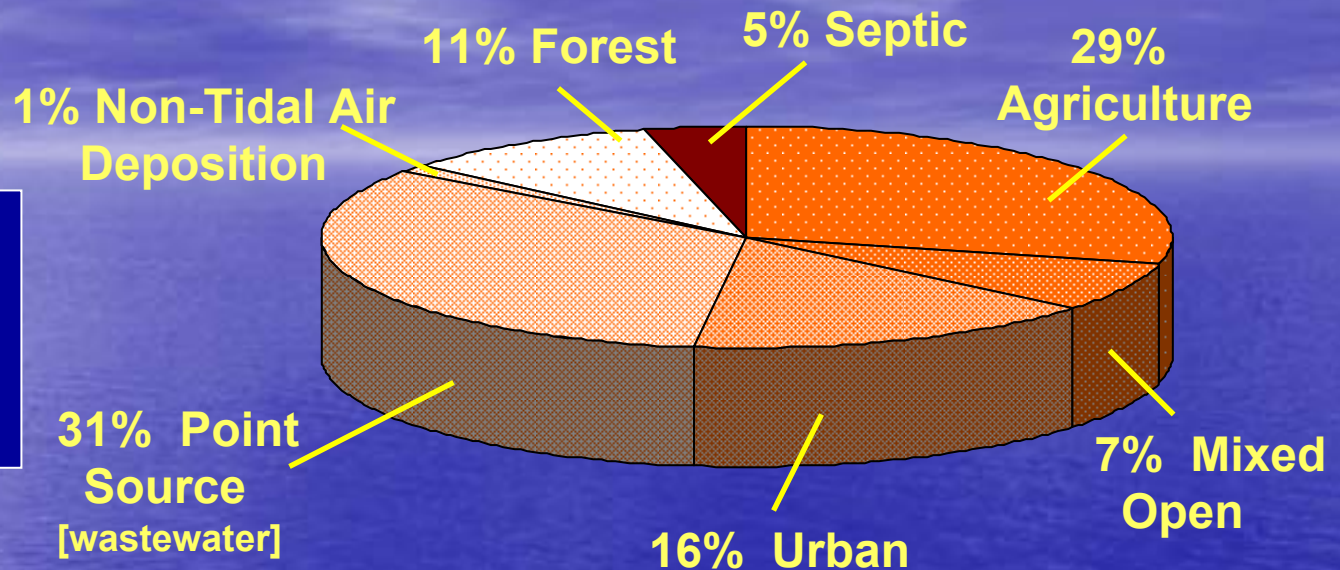


Sediment Loads [M tons/yr]

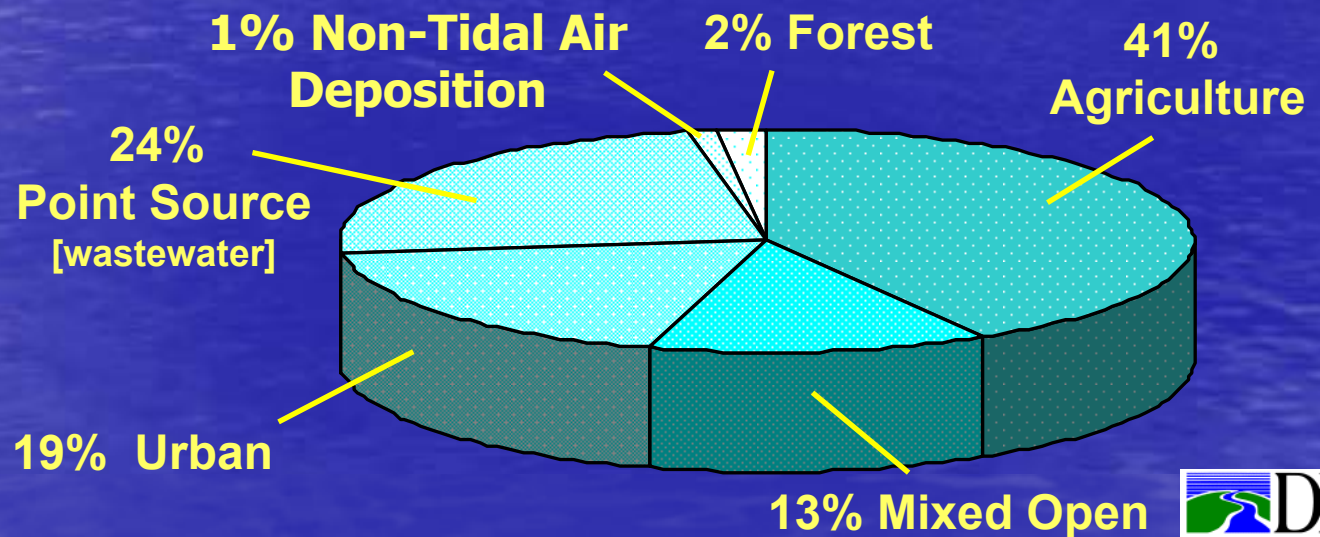


VA Nutrient Load Sources (2003)

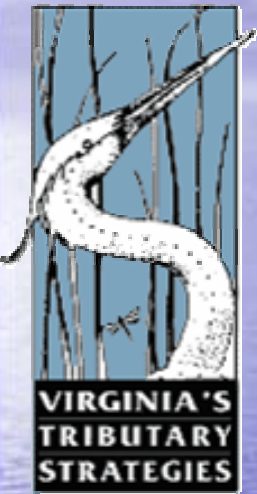
Nitrogen
Total Load =
75.3 million
pounds/year



Phosphorus
Total Load =
9.7 million
pounds/year



Watershed Approach to Nutrient Reduction



- SNR's Tributary Strategies define the necessary point and nonpoint source control actions
- To set waste load allocations, SNR's August 2004 *Point Source Policy* directs use of design flow capacity with stringent nutrient control technology
- Point source controls recognized as highly reliable, cost effective, measurable, enforceable, and critical to achievement of water quality objectives
- Remaining nutrient reduction will need to be accomplished by nonpoint sources

Point Source Nutrient Discharge Regulations

Gov. Warner initiated rulemaking at 2003 Chesapeake Executive Council by directing DEQ to develop regulations, for adoption by State Water Control Board, authorizing nutrient limits in discharge permits. This led to proposals for:

- **Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed** (9 VAC 25-40)
- **Water Quality Management Planning Regulation** (9 VAC 25-720)



Rulemaking Process:

- SWCB approval on 8/31/04 to go to public hearing and comment on proposed amendments.
- Notice of Public Comment published 2/21/05; held 4 hearings around the Bay watershed in March; comment period ended 4/25/05.
- 73 sets of comments received; over 700 pages.

Regulation For Nutrient Enriched Waters and Dischargers Within the Chesapeake Bay Watershed

(9 VAC 25-40)

Overview: 9 VAC 25-40

Original Proposal would have . . .

- Set technology-based, annual average nitrogen and phosphorus concentration limits; minimum treatment = BNR
- Specified limits and deadlines, which varied based on:
 - size of treatment plant
 - existing vs. new or expanded dischargers
- Allowed for alternative limits if discharger shows that specified levels can't be achieved

Overview: 9 VAC 25-40

Key Public Comments . . .

- Regulation should not include technology-based concentration limits
- Conform to new Nutrient Credit Exchange law regarding affected dischargers and related technology-based effluent levels
- Compliance schedule - two positions taken:
 - 2010 deadline is appropriate, retain
 - Extend deadline or have *Watershed General Permit* set schedule

Overview: 9 VAC 25-40

Revised Proposal . . .

- Added definitions for "*equivalent load*" and "*expansion or expands*"
- Leave unchanged two non-Bay watershed section provisions
- For Bay watershed dischargers, revised Board policy statement ***from*** all dischargers operate at a minimum treatment level ***to*** operate installed nutrient removal systems at their design levels

Overview: 9 VAC 25-40

Revised Proposal (*cont.*) . . .

- Require concentration limits for plants that install nutrient removal, based on system's design capabilities
- Deleted wording about compliance schedule and 2010 date. Scheduling will be addressed in the *Watershed General Permit*, per new Nutrient Credit Exchange law
- Allow alternative compliance method to technology-based effluent limits, available to plants in Environmental Excellence Program

Water Quality Management Regulation

(9 VAC 25-720)

Overview: 9 VAC 25-720

Original Proposal would have . . .

- Established annual point source nitrogen and phosphorus waste load allocations in each of VA's Chesapeake Bay basins, based on Tributary Strategy Plans
- Authorized use of a watershed trading and offset program to assist in the nutrient reduction effort

Overview: 9 VAC 25-720

Key Public Comments . . .

- Trading and offsets - two positions taken:
 - Don't include trading procedures
 - Conform to new Nutrient Credit Exchange law
- Regulate only the 'bioavailable' portion of discharged nutrient loads
- Use 'net' discharge loads for waste load allocations

Overview: 9 VAC 25-720

Key Public Comments (*cont.*) . . .

- 43 Significant Dischargers requested higher nutrient waste load allocations
- 14 additional allocation requests, where:
 - Commenter claimed plant should be on Significant Discharger list, or
 - Plant is a smaller, non-significant facility
- Oppose setting James and York allocations until final water quality standards adopted; consider less stringent limits that achieve same environmental objectives

Overview: 9 VAC 25-720

Revised Proposal . . .

- Modified definition for "*Significant Discharger*"; added the term "*equivalent load*"
- Extensive changes to Section 720-40:
 - Revised from just a trading section to include several implementation items
 - Deleted all trading rules and procedures; these will be addressed in *Watershed General Permit*
 - Added provision to address 'bioavailability' of nutrients to aquatic life
 - Added provision to address nutrients in intake water, allows industrial permits to include 'net' nutrient load limits

Overview: 9 VAC 25-720

Revised Proposal (*cont.*) . . .

- Changed waste load allocation amounts in river basin tables - now shown to nearest pound, instead of two significant figures.
- Deleted wording about compliance schedule and 2010 date. Scheduling will be addressed in the *Watershed General Permit*, per new Nutrient Credit Exchange law

Overview: 9 VAC 25-720

Revised Proposal (*cont.*) . . .

- Revised allocations for York and James Significant Dischargers, per SNR's Policy Directive (use full design flow coupled with stringent nutrient removal). These replace "interim" allocations in the January 2005 *Basinwide Tributary Strategy Document*, and are based on:
 - **York** (entire basin) and **James** (above fall line & tidal fresh): TN=4.0 mg/l; TP=0.3 mg/l
 - **James** (lower estuary): TN=8.0 mg/l; TP=1.0 mg/l
 - Exceptions based on unique wastewater characteristics or treatment capabilities

Overview: 9 VAC 25-720

Revised Proposal (*cont.*) . . .

- Allocations changed for several dischargers based on comments and review of permit documentation. Adjustments due to:
 - corrections to current design flow figures
 - actions underway to expand capacity at municipal plants and have new design flow certified for operation by 2010
 - design flow figures for industrial dischargers that allow full production potential
 - reflect equal level-of-effort reduction for industrial compared to municipal plants, and unique wastewater qualities that affect 'treatability'

Capital Cost Estimates*

Capital cost for significant dischargers to meet concentration and waste load allocation limits:

Basin	Nitrogen Control Cost (million \$)	Phosphorus Control Cost (million \$)	Total Nutrient Control Cost (million \$)
Shen-Potomac	\$479	\$15	\$494
Rappahannock	\$106	\$ 1	\$107
York	\$ 87	\$ 1	\$ 88
James	\$486	\$ 6	\$492
Eastern Shore	\$ 13	<\$ 1	\$ 14
<i>TOTALS</i>	<i>\$1,171</i>	<i>\$24</i>	<i>\$1,195</i>

*NOTE: figures are planning level, order-of-magnitude cost opinions, accurate from -30% to +50%

Attorney General Certification

- Final proposals have been provided to the Attorney General's Office for certification

9 VAC 25-40: Staff Recommends the Board . . .

1. Adopt the amendments to the Regulation for Nutrient Enriched Waters and Dischargers Within the Chesapeake Bay Watershed as proposed today;
2. Suspend this regulatory process under Section 2.2-4015.A.4 of the Virginia Administrative Process Act to allow time for a 30-day public review and comment period on these changes; and,
3. Direct the staff to return to the Board's next regularly scheduled meeting with a summary of the comments received and recommendations for the Board's consideration.

9 VAC 25-720:

Staff Recommends the Board . . .

1. Adopt the amendments to the Water Quality Management Planning Regulation as proposed today;
2. Suspend this regulatory process under Section 2.2-4015.A.4 of the Virginia Administrative Process Act to allow time for a 30-day public review and comment period on these changes; and,
3. Direct the staff to return to the Board's next regularly scheduled meeting with a summary of the comments received and recommendations for the Board's consideration.